

Research Defence Society.

AN ADDRESS BY

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ON

The Case Presented by Anti-Vivisectionists.

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I have thought that it might be a subject of interest to this Society, to put before it the views and statements which have been propounded by those who advocate the abolition of experiments on animals; since the main purpose of our Association is to show how impracticable such views are in the actual conditions of society. In order to obtain an idea of these views, we need do no more than consult the five volumes which have been issued in the Reports of the Royal Commission on the Act which is commonly known as "The Cruelty to Animals Act," 39 and 40 Vic., Cap. 77. I am not going to burthen you with many details: but, in order that you may understand the opinions that are actually held by anti-vivisectionists, I have culled certain excerpts from the evidence of representatives who were sent up, by their Societies, to give evidence before the Commission.

Place aux dames. One lady, an authoress and theosophist, who came as a representative of a Society which calls itself the Parliamentary Association for the Abolition of Vivisection, began by stating that the practice of vivisection causes great moral and ethical deterioration of the race, which far outweighs any conceivable value to be derived from it. On being questioned with regard to this somewhat remarkable statement, she admitted that she had no evidence of such deterioration, but said that in her opinion experiments on animals were not justifiable, even if thousands of lives should be saved every year. For example, in India, where 20,000 people a year are killed by snake bites—if a method could be found, by experiments on animals, which would prevent such deaths, she would still say the experiments should not

be allowed. She gave it as her opinion that it is not justifiable to inoculate a guineapig with milk in order to determine whether the milk is capable of communicating, to infants which are to be fed with it, tuberculosis or other disease. She was not actually asked the question, but I have no doubt she would object, quite consistently, to a miner taking a mouse down with him into a pit in order to see whether the air was respirable or irrespirable; or to a sparrow being lowered into a well to determine if a workman could live in that well. Another authoress—an Irishwoman—who represented the same Association as the first witness, objected not only to man but also to animals being treated with preventive or curative sera. She appeared to think that the progress of disease might be left to Nature; and, if Nature thinks well that man or animals should die prematurely, why, let them die. This lady is consistent even to the extent of having tried to be a vegetarian—an attempt she had to relinquish after suffering discomfort for several months. Such anti-vivisectionists as these profess themselves unwilling to accept any benefit which can be obtained from experiments on animals. Some of them, however, get over the difficulty of their situation by refusing to admit that any benefit has ever been obtained, or that any utility has ever emanated from such experiments. They refuse to believe that animals can be immunised for disease, *e.g.*, for rinderpest or anthrax; or that tuberculosis and glanders can be diagnosed by the injection of tuberculin or mallein. They decline, in short, to believe demonstrable facts. A remarkable instance of this class is furnished by a well-known Swedish lady, who appears to have allowed her judgment even regarding matters of fact to be warped by considerations of what she believes to be humanity.

Some of the persons who came to give evidence on behalf of anti-vivisection Societies made the wildest of assertions. One gentleman stated quite explicitly before the Commission that "hundreds of thousands of dogs" had been used in order to determine the functions of the brain. Now, I do not suppose even hundreds of animals were used for the actual determination of this essential fact in physiology—at any rate to talk of "hundreds of thousands" of dogs being sacrificed is so ridiculous a flight of the imagination as almost to approach the sublime. The same witness goes on to say that in spite of this (fictional) holocaust of victims, not more than 33 per cent. of the cases which are operated-on in man recover. Even supposing that 33 per cent. recover, it is only as a result of such experiments that operations on the brain have been rendered possible. What ought we not to sacrifice in animal life to obtain such an important result as this? But as a matter of fact the sacrifice is really small; nor are such experiments painful; for they are performed under anæsthesia, and the brain substance itself is well known not to be sensitive to pain. This fact is not stated by the anti-vivisectionists: all such facts are carefully omitted by them; many profess to disbelieve them.

The persons I have hitherto referred to for the most part profess the desire to prevent the operating upon or killing of animals for any possible purpose, including the preparation of food. But there is another kind of anti-vivisector who does not extend this solicitude for animals to this extreme. He is willing to continue to exploit them for his comfort or pleasure, but would prevent such operations as are calculated to advance knowledge, even although such knowledge may be beneficial not only to mankind, but even to animals themselves. The first, the consistent anti-vivisectionist, desires total abolition, on the ground that mankind has no right to take animal life nor to exploit animals for his own purpose. This attitude is perfectly consistent, if impracticable. Such persons should of necessity be vegetarians; they ought never to wear boots and shoes made of leather; never to use horses to draw their carriages; never to drink the milk of cows—since all these uses of animals involve their exploitation, often attended by circumstances and conditions which are productive of considerable pain. The other kind of anti-vivisectionist appears at first sight more sensible, if less sensitive. In his opinion, mankind has no right to use animals for the purpose of acquiring knowledge, whether such knowledge is useful or not, but may use them even under circumstances which involve pain when it is for his own subsistence, or for commercial purposes, or to promote his pleasure or comfort. Of this last class, some desire to see the total abolition of animal experiments; others profess not to desire total abolition, but propose to introduce measures which would practically involve abolition. I shall deal with this question later on.

Most persons are profoundly ignorant of the methods of treating animals which are destined for food or for domestic purposes. They are unaware that every year in this kingdom millions of such animals—both male and female—are painfully mutilated without anæsthesia or antiseptis; that for commercial purposes millions of lambs have their tails removed, millions of rabbits are caught by the iron claws of the “gin” and suffered to remain for hours with broken or lacerated limbs before being killed or collected for the market; that millions of sheep and pigs are slaughtered in a slow and painful manner in order that their meat may be more white or tender than it otherwise would be. They ignore the fact that millions of harmless and defenceless creatures are slaughtered every year purely for sport, the pleasure which this yields being measured by the amount of animal life which is sacrificed. With these people, the heinousness of scientific experiments on animals consists in their motive. That they are merely for the advancement of knowledge, suffices to condemn them.

I have already stated that many of the anti-vivisectionists deny that any benefits are obtained from scientific experiments on animals, or that knowledge has ever been advanced by these experiments, or that the suffering of mankind or animals has been

in any way alleviated by them. It is not possible to argue with the extraordinary ignorance which such statements as these involve. We medical men and physiologists know, that there is not a single fact of importance in the whole history of medicine which has not been discovered or elucidated by the experimental method. Without this method no advance is possible in medicine or surgery: for these are founded upon physiology and pathology, and both of these are essentially experimental sciences. It is true that Nature sometimes makes an experiment on man; but, until such an experiment has been controlled by others on animals, its interpretation is always difficult and frequently impossible. You might as well expect chemistry and physics to advance without experiments as medicine and surgery. By the employment of the experimental method upon animals, certain diseases both of man and animals have been almost completely eliminated, while others have been reduced to relatively small proportions, or are at any rate capable of being brought under control, so as no longer to present the formidable aspect in which they appeared to our ancestors. It would occupy too much time were I to attempt to give you a complete list of such diseases; but it is sufficient to mention, in connection with the subject, diphtheria, anthrax, rinderpest or cattle plague, pleuró-pneumonia, tetanus—especially in animals—hydrophobia, swine erysipelas, typhoid fever, malaria, yellow fever, Malta fever, and the whole modern practice of surgery. At the time when I was a medical student, some forty years ago, operations upon certain parts of the human body were impossible. It was almost certainly fatal to attempt any operation on the brain or upon the abdominal viscera, and it would have been considered homicidal to open a joint. At the present time, thanks entirely to knowledge gained by experiments on animals, there is no part of the body which the surgeon cannot explore with impunity. This result has flowed from the development of Listerian methods, Lister's ideas having been stimulated by the experiments of the immortal Pasteur and confirmed by those which Lister himself found it necessary to conduct before he dared apply his method to man. In our latest war, innumerable instances occurred of recovery from wounds which in former days it was impossible to treat successfully, and quite impossible to expect recovery from. Facts like these cannot be ignored; they are within the knowledge of everyone, and to state that they are not to be believed is not argument but folly.

I have spoken of the two main classes of anti-vivisectionists as the consistent and the inconsistent. The consistent anti-vivisectionists are almost worthy of sympathy, especially since, as is obvious from their evidence before the Commission, they for the most part are ignorant regarding the sufferings inflicted on animals for human convenience: indeed,—on learning for the first time of such sufferings—many of them expressed their detestation of the methods of commerce and agriculture as well as of those of science. But the anti-vivisectionist who knows all about these methods, and yet professes that he is unable to sleep because of the thought of

the sufferings inflicted on animals in laboratories, is on a different moral footing. He is willing to condone the destruction of thousands of innocent lives for the pure pleasure of killing, and to accept for his Societies large donations from the noble sportsmen who are his patrons, and the sympathy of smart ladies who do not scruple to wear the spoils of the most beautiful of birds, or the most harmless of mammals, although he is well aware that there is more suffering and slaughter inflicted in a single day's sport than in a whole year in all the laboratories of the United Kingdom. We can put ourselves in the place of the consistent anti-vivisectionists and, assuming that they are ignorant of what is done to animals for the sake of the profit or comfort of mankind, we can sympathise to some extent with their feelings. We can believe that they are really horrified when they read the accounts of operations which they are told are daily and hourly performed upon animals which are not anæsthetised—a statement they are strangely anxious to believe. It is more difficult to realise that, as would appear from a perusal of their evidence, some anti-vivisectionists are shocked at experiments in which no operation either painful or painless is performed. For there are certain experiments, involving no operation whatever and no pain of any sort, by the results of which it has become possible to diagnose obscure cases of heart disease that it was not possible to investigate accurately by other means. A physical instrument known as the galvanometer is alone used in these experiments. Being completely ignorant of science, and not knowing a galvanometer from a gallipot, these people have imagined that the former is an instrument for producing physical torture, whereas every schoolboy knows that it is merely a magnet arranged for the purpose of showing the existence of galvanic currents. An amusing example of this ignorance was furnished recently by a certain anti-vivisectionist member of Parliament, who drew the attention of the then Home Secretary (Mr. Herbert Gladstone) to the fact that Dr. Waller had exhibited at a *soirée* of the Royal Society a peculiarly revolting experiment upon a bull-dog. Mr. Gladstone took the trouble to go and witness the experiment for himself, and was able to explain, to the amusement of the bulk of his audience, that the amount of suffering which the bull-dog had experienced could be appreciated by his questioner, if the latter had ever paddled in the sea. By this answer Mr. Gladstone obtained for himself among the anti-vivisectionists a reputation for frivolity and callousness which it will take the remainder of his career to live down.

Apart however from these displays of ignorance, if people genuinely hold the belief that mankind has no right to inflict suffering on the lower animals for his benefit, we may honour that opinion, although pitying the attitude of mind which is unable to see the impracticability of such a view of the relations of mankind to the rest of animate nature. But it is not possible to hold in honour the man who will not lift his little finger to prevent the immense amount of animal suffering which he knows that millions

of animals undergo every year for the sake of sport or profit, while he agitates against the comparatively small number of experiments, conducted for the most part painlessly, for the advancement of knowledge, and ultimately for the benefit not only of mankind but also of animals themselves. For such people as these, no words of contempt can be too scathing. Hypocrisy and cant are written large over all their proceedings. Many of them pretend that they do not wish the total abolition of animal experimentation, but are willing it should be performed under what they are pleased to consider proper safeguards, the safeguard which they are fond of suggesting being that at every experiment an inspector should be present. As if there were not witnesses—assistants, servants, students—of all operations; and yet never has there been the least suggestion or the slightest evidence from these witnesses that the regulations provided by the Act are not fully carried out. Our laboratories are always open; and anyone—even an anti-vivisector—can walk in at any time, in the same manner as the inspector himself does. But to insist that an inspector should be present at every experiment would necessitate as many inspectors as operators. It would be as reasonable to insist that an inspector should travel on every motor car in order to see that the speed limit is not exceeded. In point of fact, this very illustration was brought forward by Mr. Stephen Coleridge to show that—since motorists like himself were continually breaking the law as regards the speed-limit, and would think it perfectly right to deny such infringement if challenged—it was only natural to believe that physiologists must be also constantly breaking the law as regards anæsthesia, and would be equally ready to deny that they were doing so. I do not think it is quite fair for Mr. Coleridge to place us on the same ethical level which he is satisfied to adopt for himself.

Before going further, it may be well to explain what are the different kinds of experiments performed upon animals, because most people do not understand how materially they differ from one another. There are two kinds which may be described as physiological. Of these, one is carried out entirely under chloroform or some other general anæsthetic. The animal is never allowed to recover, and is killed painlessly at the completion of the experiment. Such an animal from first to last can feel nothing. There is no suffering whatever inflicted, and no person who is willing to admit that important results in physiology can be obtained from it can possibly object to such an experiment. It is no more painful, probably less so, than the mode ordinarily adopted for killing stray dogs, of which 20,000 are sacrificed every year in London alone. It is understood that they are put into a *lethal chamber*, which sounds not unpleasant, but for all that is nothing but a *suffocation chamber*. Suffocation is probably not a very painful mode of death, but most people think it to be so: and if they were to hear that for scientific purposes twenty thousand dogs were suffocated every year, there would be a thrill of horror through the land. Until recently,

it was customary in Edinburgh, and perhaps it is the custom still in other places, to drown such dogs. Drowning is merely another form of suffocation. The pain of drowning is probably not very great; nevertheless, when some thirty or forty dogs were drowned in a state of complete anæsthesia for the sake of discovering a better method of resuscitating drowned persons, the investigator was held up by the anti-vivisectionists to the execration of his fellowmen. Most of the animals used, killed by physiologists, suffer far less in every way than those taken by the police and put to death in what is known as a lethal chamber.

In the second kind of physiological experiment, the actual operation is performed under complete anæsthesia, but the animal is allowed to recover from the anæsthetic. These operations are conducted in as careful a manner as a surgeon conducts an operation upon a patient. The animals are treated in the same way; they are dressed and nursed similarly to surgical patients. They recover without showing any signs of pain, so that these operations are also, from first to last, practically painless; indeed, the Home Secretary orders that if, after an operation, the animal shows signs of pain, it is to be immediately killed by chloroform. If we admit, as we are bound to admit, that important information regarding the functions of the body may accrue from these experiments, I assert that we have a moral and ethical right to perform them, even if they appear to have no immediate practical bearing upon the curing of disease.

The object of the first kind of physiological experiment is to investigate the functions of the organs, in so far as this can be done while the animal is completely under an anæsthetic; and, except for experiments on sensation itself—which can only be conducted upon man, for he alone can give an account of his sensations—an anæsthetic is not only desirable but even necessary. Sometimes it is required to determine if an organ acts under the influence of nerve fibres or independently of them. With this object it may be necessary to stimulate a nerve. But such nerve fibres are not sensory nerves; they are not nerves capable of producing sensations in the brain; their effects are produced at the periphery, upon muscular tissue, glands, etc., and these effects are unaccompanied by any sort of sensation. Experiments of this kind were constantly quoted in the evidence before the Commission as experiments of a highly painful character. This arose, of course, from sheer ignorance on the part of those who gave the evidence.

The object of the second class of physiological experiment is to determine the function of an organ by noticing what happens when it is injured or removed. Very important results have been obtained in this manner; it is indeed the only way by which the functions of certain parts of the body can be discovered. By means of it the functions of such organs as the ductless glands have been successfully investigated; it proved in fact impossible to arrive at

the functions of some of these glands until their experimental removal. Until recently no one supposed for a moment that such minute organs as the parathyroids, which are not larger than the head of a moderate sized pin, had any importance. But the physiologists removed them, and showed that in some animals at least, and probably this is true for man, they are essential to life. And the practitioner now knows that if he is removing a tumour from their neighbourhood he must be careful not to remove the parathyroids with it, or the operation may have fatal consequences. Similarly for the suprarenals. It has been found that if they are removed, an animal soon dies; and if they are destroyed by disease in man or animals, death also results. Quite recently it has been found that when certain disease-toxins are injected into animals, these glands are rendered functionless; and it is probable that death results mainly from this loss of function. If this is so, we have only to find out how to prevent this loss of function or to supply its place, and we shall be a long step forward in the direction of cure.

A third kind of experiment is necessary to test the action of drugs. It would be improper and might even be dangerous to test a new drug upon man first. Let us take an extreme case. Supposing a new drug as potent as snake poison were discovered, it would clearly not be safe to test such a drug even in the minutest possible dose on a human being. For other reasons also it is necessary to test drugs upon animals, for there are certain effects which are not outwardly manifest, and can only be determined by exposing to view the organ which is affected by the drug. The results obtained by such experiments as these have been both positive and negative—positive as regards the effects which have been proved to be produced by both new and old drugs—negative in the sense that drugs which had from time immemorial been assumed to act upon a particular organ have been shown to have no action whatever upon it. Old practitioners in the past, and some such may still exist, thought that they knew of a number of drugs which act upon the liver. If there was anything wrong with you which they were otherwise at a loss to explain, “your liver was out of order,” and you got a dose of some drug which was supposed to promote a flow of bile. Well, when these drugs came to be tested upon animals, every one of them was shown to have no action upon the liver at all. The objection which has been raised to the investigation of drugs upon animals, that their action is likely to be different in the case of man, has no real validity—although a few drugs do act differently or with different doses upon different animals. Nothing illustrates this more clearly than the fact that the drugs of the veterinary pharmacopœia are practically the same as those of the human pharmacopœia.

There is yet a fourth kind of experiment which is not physiological or pharmacological, but pathological, and which constitutes the bulk of those which are actually performed. This

consists in a mere puncture of the skin, but is intended to inoculate the animal with the germs of disease. Sometimes the object of the operation is to see whether disease germs are present in any fluid which is under investigation, *e.g.*, milk. It is admitted that if the disease be communicated there may be some suffering caused to the animals. But this can never be of the same character or extent as that which mankind suffers; nor is it, unless in exceptional cases, necessary to allow the disease to progress far. As a rule it is sufficient to see if the germs are present, and if the animal shows signs of illness it is killed under chloroform, and is thus not allowed to suffer pain. There may be a few cases in which it is imperative that the animal should die of the disease in order to study the organs which are affected. But such an inoculated animal does not suffer more, probably does not suffer so much, as animals which are naturally infected by such disease. At the worst, the inoculations which are performed by pathologists are but as a drop in the ocean compared with the millions of painful experiments of the same kind which Nature is every day performing. Moreover, this relatively small amount of suffering is inflicted with the view of ultimately alleviating the vast amount of suffering which occurs in Nature; and I assert with confidence that mankind is justified in inflicting pain when necessary, to obtain the means for alleviating a much vaster amount of suffering.

To apply the word "cruel" to any such experiments as I have described, is to abuse the term. Cruelty is the wanton infliction of pain. No one thinks of a surgical operation as cruel. No one considers the dentist cruel who inflicts pain in extracting a tooth. In animal experiments as in surgical cases every precaution is taken to avoid unnecessary pain. The difference is this—that the one operation is performed for the benefit of an individual, whether man or animal; the other is undertaken with the object of advancing human knowledge and of thereby benefitting not the single individual, but all mankind and all the animals which are dependent upon man. This is indeed the essential difference between operations undertaken for a scientific object and those which are undertaken for the cure of disease; and who can doubt which is the higher object, the advantage of the individual or the welfare of the race?

There is yet a fifth kind of experiment, which is performed for a different purpose, *viz.*, with the view of obtaining curative or immunising serums which may be used in the manner of drugs and are intended to prevent or cure disease. Such are obtained from the blood of animals, usually horses, which have been inoculated with certain diseases; they contain substances which cure or prevent these diseases in other animals. Experiments of this nature are initially made in order to obtain a knowledge of the best mode of procuring immunisation or of treating disease; but after this preliminary knowledge is obtained, the methods which have been

discovered by such experiments are employed in order to procure the curative material. They then come under the head of commercial productions, and are largely used in medicine and surgery, and very largely by veterinary surgeons and agriculturists, to prevent the spread of epidemics or to cure patients and animals that may already have been attacked.

By means of these experiments, chemists take advantage of natural processes of immunisation and cure, to manufacture materials which will aid in the prevention and cure of actual illness. The amount of pain inflicted is for the most part infinitesimal. The animals which are inoculated exhibit such slight symptoms of disease that it is hardly apparent. After they are immunised, blood is drawn from a superficial vein so quietly that the horse itself may be munching its oats and does not even wince at the small incision which is necessary. For it has all its life been accustomed to the infliction of a far great amount of pain from the application of the whip or spur or bearing-rein. Even were the pain greater than it is, I would still say we are justified in inflicting it in order to prevent or cure disease in man and animals. It may happen that some day, when the chemical constitution of these immunising substances is better known, the chemist will be able to make them *in vitro*. But until that day arrives, it is necessary that they should be procured by the application of the experimental method to animals. Those who would say that the physician or veterinary surgeon must not avail himself of the means which nature itself supplies, and would suggest that there is anything immoral in doing so, must be prepared to assert, as some do, that under no conceivable circumstances have we a right to employ animals to minister to our security or comfort, and that we are not in any event justified in taking life, even for our own protection. Indeed, one anti-vivisectionist witness was prepared to go so far that she would not positively draw the line even at mosquitos. If it comes to that, I am not sure that if these people understood there is no essential difference between animal and vegetable life, they would not shudder at the idea of boiling a cabbage or frying a potato. They are prepared if need be, to sacrifice their lives or the lives of their children, if they have any, to their consistency. I do not desire to condemn their views as wrong, although it is obvious that they are impracticable and impossible. But with the other class of anti-vivisectionists, who "compound for sins they are inclined to, by damning those they have no mind to," the case is different. These are neither honest nor consistent, and many of those who lend support to their proceedings are misled into doing so by their wilful misrepresentations. For they exaggerate the suffering of animals which are used for experiments, and ignore that of those which are used for commercial and sporting purposes. To obtain some foundation for their inconsistency, they are ready to deny that any useful knowledge has been obtained from animal experimentation. Such denial is, how-

ever, useless. Physiology is the actual foundation upon which medicine is based: and no advance has ever been made in physiology, no important fact has ever been discovered in that science, without the aid of animal experimentation. Clinical observation alone can only grope blindly without the guiding light of experiment. Regarding those who profess to practise medicine without the knowledge which has been acquired by experiment, one can only say that either their ignorance of the history of medicine is colossal, or that the knowledge they possess is infinitesimal. Such doctors are few in number and either antediluvian or obscure. Their views are repudiated by the whole medical profession. Nevertheless, the opinions of these men are put forward by anti-vivisectionists as if they were of equal weight with those of the great leaders of medicine and surgery. I believe there are some 36,000 doctors in practice in the United Kingdom. I doubt if 100 can be found willing to endorse opinions which, if they know anything about the history of medicine, they must know to be false. It is for the most part the ignorant and ill-informed members of the community who support the anti-vivisection agitation. It receives relatively little encouragement from the cultivated classes. But this does not make the agitation less dangerous, for the ill-informed will always be the majority; and unless we take means to dispel the general ignorance which prevails on this subject, serious impediments may be imposed to the future development of medicine. That is the purpose of the Research Defence Society; that is why we ask the co-operation of all educated men and women in our efforts to advance the knowledge of the functions of the body both in health and in sickness. For it is only by the acquirement of such knowledge that it is possible to alleviate suffering and to cure and prevent disease, whether in man or in animals.

Research Defence Society.

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The Research Defence Society was founded in 1908, to make generally known the facts about experiments on animals in this country, and the regulations under which they are conducted; the immense importance of such experiments to the welfare of mankind; and the great

saving of human and animal life and health which is already due to them. The Society has at the present time (May, 1911) about 4,000 Members and 300 Associates. Branch Societies have been formed in Birmingham, Bournemouth, Brighton and Sussex, Bristol, Bromley Beckenham and District, Cambridge, Devon (Exeter, Torquay), Dublin, East Lothian, Edinburgh, Glasgow, Harrogate, Isle of Wight (Ryde), Kensington, Liverpool, Northern Counties (Newcastle), Nottingham, Oxford, Portsmouth and Southsea, Plymouth West Devon and Cornwall, Reading, Shropshire (Shrewsbury), South-West London, Worcestershire (Malvern, Worcester), and York.

The Society gives addresses and lantern-lectures, publishes and distributes literature, sends speakers to debating societies, and assists all who wish to learn the facts about experiments on animals.

All communications should be addressed to THE HON. SECRETARY, 21, LADBROKE SQUARE, LONDON, W. He will be happy to receive applications for Membership or Associateship, to supply literature, and to make all the necessary arrangements for lectures, drawing-room meetings, etc.

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